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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

10/521050

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference CGL02/0009W01		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/22965	International filing date (day/month/year) 22 July 2003 (22.07.2003)	Priority date (day/month/year) 23 July 2002 (23.07.2002)	
International Patent Classification (IPC) or national classification and IPC IPC(7): A23L 1/105; A23P 1/12 and US Cl.: 426/516, 507, 18, 28, 618, 623			
Applicant CARGILL, INCORPORATED			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

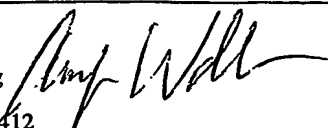
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 14 January 2004 (14.01.2004)	Date of completion of this report 29 November 2004 (29.11.2004)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Examiner George C. Yeung  Telephone No. (571) 272-1412

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed.
- ☒ the description:
pages 1-11 as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

- ☒ the claims:
pages NONE, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages 12 and 13, filed with the letter of 21 October 2004 (21.10.2004)

- ☒ the drawings:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

- ☐ the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/22965

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 1-20	YES
	Claims NONE	NO
Inventive Step (IS)	Claims 1-20	YES
	Claims NONE	NO
Industrial Applicability (IA)	Claims 1-20	YES
	Claims NONE	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-20 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest the present method for treating a cereal material comprising the steps of treating a cereal material with a processing solution in a screw transporter; transporting the cereal material through the screw transporter; and separating at least one component from the cereal material wherein the components are selected from the group consisting of germ, fiber, protein and starch as set forth in claim 1.

----- NEW CITATIONS -----

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 16 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the claim is indefinite for the following reason(s):

Claim 16 is indefinite in the recitation of "according to claim 16" since claim 16 depends upon itself.

**CLAIMS****We claim:**

1. A method for treating a cereal material comprising;
treating a cereal material with a processing solution in a screw transporter; transporting the cereal material through the screw transporter (s); and
separating at least one component from the cereal material wherein the components are selected from the group consisting of germ, fiber, protein and starch.
2. The method according to claim 1 wherein the cereal material is selected from the group consisting of corn, oats, barley, rye, wheat, rice, sorghum and mixtures thereof.
3. The method according to claim 1, wherein the screw transporter is selected from the group consisting of a screw extruder and a screw conveyer.
4. The method according to claim 1 wherein the cereal material comprises absorbed solvent selected from the group consisting of an aqueous solvent, an organic solvent and mixtures thereof.
5. The method according to claim 4 wherein the aqueous solvent is water.
6. The method according to claim 4 wherein the solvent comprises at least one compound selected from the group consisting of wetting agents, reducing agents and pH modifiers.
7. The method according to claim 1 wherein the processing solution comprises an acid and sulphur dioxide.
8. The method according to claim 7 wherein the acid is lactic acid
9. The method according to claim 1 wherein the cereal material is treated with processing solution for a period of at least 1 hour.
10. The method according to claim 1 wherein the cereal material is treated with processing solution for a period of at least 3 hours.
11. The method according to claim 1 wherein the temperature ranges from about 15°C to about 65°C.

AMENDED SHEET



12. The method according to claim 1 wherein the processing solution is present in an amount ranging from about 0.30 to about 0.67 m³ of processing solution per metric ton of cereal material (about 2.0 to about 4.5 gallons of processing solution per bushel of cereal material).
13. The method according to claim 12 wherein the processing solution is present in an amount that will be completely absorbed by the cereal material.
14. The method according to claim 1 wherein more than one screw transporter is utilized.
15. The method according to claim 14 wherein discharge from the screw transporter is comminuted.
16. The method according to claim 16 wherein the starch is hydrolyzed.
17. A method for producing a fermentation feedstock comprising using the starch containing stream produced in accordance with claim 16.
18. A method for producing a fermentation feedstock comprising using the hydrolyzed starch containing stream produced in accordance with claim 17.
19. A method for using the starch containing stream product of claim 16 as fermentation feedstock.
20. A method for using the hydrolyzed starch containing stream of claim 17 as fermentation feedstock.

AMENDED SHEET